

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Ke Liu

Examiner: Tu Minh Nguyen

Serial No.: 10/789,512

Art Unit: 3748

Filed: February 26, 2004

Docket No.: C-2836B

Title: Reducing Oxides of Nitrogen Using
Reformate Generated from Engine
Fuel, Water and/or Air

DECLARATION UNDER 37 CFR 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Roger R. Lesieur declares that:

1. He is a U.S. citizen residing at 14 VanBuren Road, Enfield, CT.
2. He has a master's degree in Chemical Engineering, and has been actively involved in the art of reforming hydrocarbon feed stocks for 39 years.
3. He is employed by HydrogenSource, LLC, the assignee of the above-identified application.
4. He has reviewed both the patent to Boegner et al and the patent to Komatsu, as well as the rejections in the parent application of the above-identified application which allege that certain claims of the parent application would be obvious; that is, that it would be obvious from the teachings of Komatsu to add water to the input to the electrically heated mini-E-catalyst 16 of Boegner et al.
5. The disclosure of Komatsu, particularly at the top of column 6, teaches that increasing the amount of water will reduce the reformation

temperature resulting in the reformed gas being produced in a small quantity. In any catalytic partial oxidizer, such as the mini-E-catalyst of Boegner et al, higher temperatures provide a greater yield of hydrogen, and lower temperatures result in a lower yield of hydrogen. The addition of water to the mini-E-catalyst would lower the temperature thereof, and result in a lower yield of hydrogen; alternatively, the addition of water would require providing more electricity to heat the mini-E-catalyst of Boegner et al. Therefore, one skilled in the art of reforming hydrocarbon fuels to provide hydrogen-rich gas would not expect, from a reading of Komatsu, that it would be obviously beneficial to add water to the mini-E-catalyst of Boegner et al.

6. One skilled in the art of hydrocarbon fuel reforming would not add water to Boegner et al based upon the teachings of Komatsu.

7. All statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.



Roger R. Lesieur

3-31-04

Date